

# APPLICATION

FOR

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TITLE SYSTEM AND METHOD DISPLAYING  
TEXT AND GRAPHICS IN FRAME  
BORDERS

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# SYSTEM AND METHOD FOR DISPLAYING TEXT AND GRAPHICS IN FRAME BORDERS

## Background of the Invention

### Technical Field of the Invention

5           This invention pertains to computer user interfaces.  
More particularly, it relates to placing textual and  
graphical information in the borders of window frames.

### Background Art

10           Present implementations of frames include an optional  
frame border, which may be a border line or a graphic having  
the appearance of a three dimensional border.

15           In Lotus Domino, framesets provide a way for designers  
to display several pages at the same time. A frame contains  
one page; a frameset is a collection of pages. Page  
designers can create links between frames. A major  
advantage of framesets is the ability to leave one page  
constant as users view or link to other pages.

20           The hyper text markup language (HTML) defined in HTML

4.0 in World Wide Web Consortium (W3C) Document Object Model (DOM) Level 1 at [www.w3.org](http://www.w3.org) also provides for frameset elements containing one or more frames. HTML provides the following attributes for borders: `borderColor` for setting or  
5 retrieving the border color of an object; `frameBorder` for setting or retrieving whether to display a border for a frame; `border`, `borderBottom`, `borderBottomColor`, `borderBottomStyle`, `borderBottomWidth`, `borderColor`, `borderLeft`, `borderLeftColor`, `borderWidth`, and so forth for  
10 setting various characteristics of borders. The syntax for accessing the border style of a frame object is:

```
sBorderValue = document.all.oFrame.style.border;
```

A frameset in HTML provides properties and style attributes including the following: `border`, for setting or  
15 retrieving the space between frames; `borderColor`, for setting or retrieving the color of the frame object; and `borderBottom`, `borderLeft`, `borderRight`, and `borderTop` for setting or retrieving the properties of the border.

In HTML, a frameset element is a container for the  
20 frame element. An HTML document can contain either the frameset element or the body element. If a user opens a web folder inside a frame and then clicks something in the web

folder, the file or folder that the user clicks takes over the entire window. For file types that the browser cannot host, such as .txt files, a separate window in the application host application is opened.

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Heretofore, neither Java, HTML nor Lotus Notes has provided for text or graphics images (icons) in frame borders.

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These borders provided by Java, Domino, HTML and so forth, present to the user no information indicating that the frame within the border is clickable or draggable, or that the frame even exists. The user, not knowing such, may not open the frame when it would be desirable or advantageous to do so. Applications rely on the users recognizing that there is a frame border in the display, and that it will respond to dragging, clicking or double clicking. Further, there is no hint as to the data which is contained within the frame that will be displayed or the function that will be performed upon dragging or clicking.

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There is, therefore, a need in the art for a way to present to the user some indication that the frame within the border is or is not draggable or clickable and the direction in which the frame will go when clicked.

Heretofore the border has not been a hotspot which will respond to some user action, such as being dragged or clicked, and it has been necessary to create a new page in juxtaposition to the frame border in order to provide informational text. The creation of a separate frame to contain the document frame has been required to provide a messages to the user about the content or function of the document frame.

It is an object of the invention to provide an improved system and method for providing information to a computer user regarding the identity and function of frames.

It is a further object of the invention to provide a system and method for placing text and graphic information in frame borders.

It is a further object of the invention to provide a system and method for informing a computer user by way of text and/or graphics in frame borders as to the identity and function of the frame.

It is a further object of the invention to provide a system and method for creating within a frame border a visually apparent hot spot upon which a user may click for

opening, launching, sizing and positioning a data source or function contained within a frame.

### Summary of the Invention

5 A system and method for displaying information to a user by presenting a frame border incorporating textual and/or graphical data.

10 In accordance with an aspect of the invention, there is provided a computer program product configured to be operable to provide frame information to a user by displaying a frame border and incorporating textual and/or graphical data within the frame border

15 Other features and advantages of this invention will become apparent from the following detailed description of the presently preferred embodiment of the invention, taken in conjunction with the accompanying drawings.

## **Brief Description of the Drawings**

Figure 1 is a schematic representation of a screen display including a closed frame with a border configured according to a preferred embodiment of the invention.

5           Figure 2 is a schematic representation of screen display including an open frame in the background with a border configured according to a preferred embodiment of the invention.

10           Figure 3 is a schematic representation of an information box for user specification of frame borders.

15           Figure 4 is a schematic representation of an information box for user specification of Notes only frame border captions.

## **Best Mode for Carrying Out the Invention**

In accordance with the preferred embodiments of the invention, frame borders are provided with text or graphics which present to the user information indicating which

direction a frame will go when clicked, or that it can be dragged, or that the border is or is not clickable or draggable.

Referring to Figure 1, for example, a screen 10 shows a frame border 12 with an arrow graphic 14. If arrow 14 is not present, there is no indication to the user that more content is to be found by clicking or dragging on border 12. In accordance with the preferred embodiments of the invention, through the use of descriptive text and/or graphics, such as an arrow or icon, a user may now be informed that the frame is a frame, that it may be positioned and opened, the direction in which will open or closed, and what will be uncovered.

In Figure 1, frame border 12 represents a closed frame. In Figure 2, several open frames 16, 18 are pushed to the background, and show caption text and graphics in their respective borders 17, 19.

In accordance with exemplary embodiments of the invention, text may positioned in horizontal borders, text and/or graphics may be placed in either or both horizontal and vertical borders as instructional images. It is within the scope of the present invention to also place text in



vertical borders, but such is not supported by the present preferred embodiments. Further, graphic or multiple graphic images may be provided as a border which, if clicked, expand on the use of borders. Such borders may be used to open and/or launch applications within a bordered window. Graphics in borders may also be used to embellish the border without having to create a separate frame.

In accordance with the preferred embodiments of the invention, at design time of a frameset, the designer specifies in an edit field the content and position of border text and/or graphics.

In accordance with an exemplary embodiment of the invention, the Notes Frameset Manager, which has previously had several Notes-Client-only features, is provided with frame captioning. This allows the designer to place a caption on any frame comprising a text string and/or an open/close arrow. This caption lives in and consumes space from the space normally occupied by the content of the frame and lies along any moveable edge of the frame. Since frame captioning lives within and consumes space from the area occupied by the frame's content, it coexists with all other aspects of frame and frameset design and has no effect upon them. In particular, captioning coexists with the normal

frame borders (the beveled grey or whatever sliders) and, again, lives inside them in the normal frame content area. Indeed, captioning is an addition to a frame's content that doesn't affect the surrounding frames or framesets.

5           A frame caption lies along one edge of its frame. It has a background color, a color for its text and/or arrow, and text, an open/close arrow, or both. The arrow, if present, points in the direction which the frame can be opened and the arrow is mouse-sensitive -- clicking upon the  
10 arrow causes the frame to open in the direction indicated by the arrow. Since the arrow is a user control, accessibility access to it is provided.

          The user will see frame captioning in two aspects. The first is the specification (the designing) of frame  
15 captioning. That is done by the user in Domino Designer / Frameset Design. The second aspect is the runtime rendering and operation of the captioning. That is performed by the Notes Client. Frame captioning is ignored and not rendered by other applications serving-up of frames, such as HTML, by  
20 the Domino Server.

          Referring to Figure 3, in accordance with an exemplary embodiment of the invention, in Domino Designer frameset

design, the user specifies a caption for any frame, whether the frame is empty, contains a sub (i.e., page, outline, view, etc.) or contains a frameset (i.e., frames). The user specifies which edge of the frame (left, right, top, or bottom) shall contain the caption. The caption renders flush against that side of the frame and obtains its space at the expense of the object contained within the frame. The edge specified must be a moveable edge of the frame. In this exemplary embodiment, if the caption contains text, it must be a horizontal edge (i.e., it must be the top or bottom edge.) The thickness of the caption is the height of the chosen font and font-size plus a few pixels. The width of the caption is whatever is the length of the normal frame content area along the captioned edge.

The user may create, change, or remove the frame caption of a frame by editing the frameset involved. In that frameset, the user selects the frame and brings up the frame border tab 22 of the frame properties information box 20. All specification of frame caption is done in the lower part 24 of this box, beneath the label "Border Caption (Notes Client Only)".

In border text area 26, the user enters a formula or caption text. Border text area 26 displays text, or if the

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user clicks on @ 48, a pop up formula dialog box. An example of a formula would be @username, and this would cause the name of the user to be displayed as the caption. In show listbox 28, the user specifies whether there is no captioning, text only, arrow only, or both. The user specifies font 38, size 40, style 42, text color 44 and background color 46 for the text and thus of the caption area. When a user has selected other than "None" in show listbox 28, and thus turned captioning on, which edge of the frame will be captioned can be specified in align listbox 30 and any AutoOpen value can be specified in the open numeric field 34 and percent/pixels choice listbox 36. If the caption contains text, the user can specify the font and font size of the text whether the caption contains text, the open/close arrow, or both.

Referring to Figure 4, which is a further exemplary embodiment of a border design information box, the designer may specify "Notes Only" 50 border options, in which case infobox 20 is adjusted for the applicable options, to provide a caption window 54 for entry of caption text or a formula such as @username. In this case, the Designer On Disk Structure ODS defines a data fields flag in the frame ODS. This flag has a bit defined for each additional set of information that can be stored at the end of the frame for

any new options. Flags define border caption, border font,  
and border color flags within this word. By using the  
entire word as flags, this type of data storage can be  
expanded for any new features. Two of these flags define  
when Notes only borders 50 are on and when show arrows 56 is  
on. To insure that new frames (with border captions) work  
on the web, Notes only information is ignored when on the  
web.

In accordance with further exemplary embodiments of the  
invention, the frame border may be drawn around an entire  
caption at the specified frame border width and in the  
specified frame border color, frame interior caption color  
may be specified separate from the border, a frame border  
may be dragged to open a form, and the border may be shown  
when the frame is closed. When a frame is closed, the  
border will appear as wide as the designer made it, and it  
may include text.

#### **Advantages over the Prior Art**

It is an advantage of the invention that there is  
provided an improved system and method for providing  
information to a computer user regarding the identity and

function of frames.

It is an advantage of the invention that there is provided a system and method for placing text and graphic information in frame borders.

5 It is an advantage of the invention that there is provided a system and method for informing a computer user by way of text and/or graphics in frame borders as to the identity and function of the frame.

10 It is an advantage of the invention that there is provided a system and method for creating within a frame border a visually apparent hot spot upon which a user may click for opening, launching, sizing and positioning a data source or function contained within a frame.

### Alternative Embodiments

15 It will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without departing from the spirit and scope of the invention. In particular, it is within the scope of the

invention to provide a computer program product or program element, or a program storage or memory device such as a solid or fluid transmission medium, magnetic or optical wire, tape or disc, or the like, for storing signals readable by a machine, for controlling the operation of a computer according to the method of the invention and/or to structure its components in accordance with the system of the invention.

Further, each step of the method may be executed on any general computer, such as IBM Systems designated as zSeries, iSeries, xSeries, and pSeries, or the like and pursuant to one or more, or a part of one or more, program elements, modules or objects generated from any programming language, such as C++, Java, Pl/1, Fortran, Lotus Script or the like. And still further, each said step, or a file or object or the like implementing each said step, may be executed by special purpose hardware or a circuit module designed for that purpose.

Accordingly, the scope of protection of this invention is limited only by the following claims and their equivalents.